CHAPTER 1
INTRODUCTION AND PURPOSE AND NEED FOR AGENCY ACTION

1 INTRODUCTION AND PURPOSE AND NEED FOR AGENCY ACTION

Chapter 1 presents an overview of the U.S. Department of Energy/National Nuclear Security Administration *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1). This chapter briefly relates the progression of project planning and National Environmental Policy Act environmental impact reviews, provides background information, and discusses the purpose and need for action and the alternatives analyzed in this *CMRR-NF SEIS* for constructing and operating the Nuclear Facility portion of the Chemistry and Metallurgy Research Building Replacement Project. The chapter further summarizes the associated environmental impact reviews, discusses decisions to be made now, and describes public participation actions conducted for this *CMRR-NF SEIS*.

1.1 Introduction

This *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1) has been prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 U.S.C. 4321 et seq.), as well as Council on Environmental Quality (CEQ) regulations and U.S. Department of Energy (DOE) NEPA implementing procedures codified in Title 40 of the *Code of Federal Regulations* (CFR) Parts 1500–1508 and 10 CFR Part 1021, respectively. CEQ and DOE NEPA regulations and implementing procedures require preparation of a supplemental environmental impact statement (SEIS) if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. An SEIS may also be prepared to further the purposes of NEPA. The following paragraphs summarize the NEPA analyses applicable to the Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) that the National Nuclear Security Administration (NNSA)[1] has completed over the last 8 years, as well as the changes to the CMRR-NF proposal that are the subject of this *CMRR-NF SEIS*.

Five alternatives were analyzed in the November 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS-0350):

- Alternative 1 (the Preferred Alternative): Construct a new Chemistry and Metallurgy Research Building Replacement (CMRR) Facility at Technical Area 55 (TA-55).
- Alternative 2 (Greenfield Site Alternative): Construct a new CMRR Facility at TA-6.
- Alternative 3 (Hybrid Alternative at TA-55): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-55 and continue use of the Chemistry and Metallurgy Research (CMR) Building.
- Alternative 4 (Hybrid Alternative at TA-6): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-6 and continue use of the CMR Building.
- No Action Alternative: Continue use of existing CMR Building – no new building construction.

The Preferred Alternative (Alternative 1) was selected for implementation in a 2004 Record of Decision (69 FR 6967).

[1] *For more information on NNSA, a semiautonomous agency within DOE, see the 1999 National Nuclear Security Administration Act (Title 32 of the Defense Authorization Act for Fiscal Year 2000 [P.L. 106-65]).*

In November 2003, NNSA issued the *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE/EIS-0350), which was followed by the issuance of a Record of Decision (ROD) in February 2004 (69 FR 6967) (DOE 2004a). In the *CMRR EIS* ROD, NNSA stated its decision to implement the preferred alternative, Alternative 1, the construction and operation of a new Chemistry and Metallurgy Research Building Replacement (CMRR) Facility within Technical Area 55 (TA-55) at Los Alamos National Laboratory (LANL). The new CMRR Facility would include two buildings: one for administrative and support functions and one for Hazard Category 2 and 3 special nuclear material[2] (SNM) laboratory operations. Both buildings would be constructed in aboveground locations (under *CMRR EIS* Construction Option 3). The existing Chemistry and Metallurgy Research (CMR) Building located within TA-3 at LANL would be decontaminated, decommissioned, and demolished (DD&D) in its entirety (under *CMRR EIS* Disposition Option 3). The preferred alternative includes the construction of the new CMRR Facility and the movement of operations from the existing CMR Building into the new CMRR Facility, with operations to continue in the new facility over the next 50 years.

Nuclear Facilities Hazards Classification (U.S. Department of Energy [DOE] Standard 1027)

Hazard Category 1: Hazard analysis shows the potential for significant offsite consequences.

Hazard Category 2: Hazard analysis shows the potential for significant onsite consequences.

Hazard Category 3: Hazard analysis shows the potential for only significant localized consequences.

Special Nuclear Material (SNM) Safeguards and Security (DOE Order 474.1-1A)

DOE uses a cost-effective, graded approach to providing SNM safeguards and security. Quantities of SNM stored at each DOE site are categorized as Security Category I, II, III, or IV, with the greatest quantities included under Security Category I and lesser quantities included in descending order under Security Categories II through IV. Types and compositions of SNM are further categorized by their "attractiveness" by using an alphabetical system. Materials that are most attractive for conversion into nuclear explosive devices are identified by the letter "A." Less-attractive materials are designated progressively by the letters "B" through "E."

As described in the *CMRR EIS*, the administrative and support building would provide office space in addition to laboratory space used for such activities as glovebox mockup, process testing, chemical experimentation, training, and general research and development. The laboratory areas within it would be allowed to contain only very small amounts of nuclear materials such that it would be designated a radiological facility.[3] All nuclear analytical chemistry (AC) and materials characterization (MC) operations would be housed in one Hazard Category 2 nuclear laboratory building. The Hazard Category 2 building would be constructed with one floor below ground, containing the Hazard Category 2 operations, and one floor above ground, containing Hazard Category 3 operations. Each building would have multiple stories and a total of about 200,000 square feet (19,000 square meters) of floor space. An underground tunnel would link the buildings. In addition, another underground tunnel would be constructed to connect the existing TA-55 Plutonium Facility with the Hazard Category 2 building; this tunnel would also contain a vault spur for the CMRR Facility long-term SNM storage requirements. NNSA would operate both the CMR Building and the CMRR Facility for an overlapping 2- to 4-year period because most AC and MC operations require transitioning from the old CMR Building to the new CMRR Facility buildings.

Since 2004, project personnel have engaged in an iterative planning process for all CMRR Project activities and materials needed to implement construction of the two-building CMRR Facility at TA-55. The administrative and support building, now known as the Radiological Laboratory/Utility/Office

[2] *Special nuclear material includes plutonium, uranium enriched in the isotope 233 or the isotope 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material.*

[3] *Facilities that handle less than Hazard Category 3 threshold quantities, but require identification of "radiological areas," are designated as radiological facilities.*

Building (RLUOB), was fully planned and constructed over the past 6 years, from 2004 through 2010. NNSA prepared the *Supplement Analysis, Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory, Los Alamos, New Mexico: Changes to the Location of the CMRR Facility Components (CMRR SA)* (DOE/EIS-0350-SA-01) (DOE 2005a) in 2005 to evaluate a proposal to place RLUOB at a location other than the one analyzed specifically in the 2003 *CMRR EIS*. In the *CMRR SA*, NNSA determined that the *CMRR EIS* impacts analysis encompassed this proposal and that an SEIS was not required. However, the RLUOB site location was later changed back to the location originally considered in the *CMRR EIS*, and the building site considered in the *CMRR SA* was used, as proposed and analyzed in the *CMRR EIS*, for the construction of a permanent paved parking area, with temporary construction trailers and other support functions being located within this parking area. RLUOB is now being outfitted and equipped, and interior finishing is under way. Occupancy of RLUOB is currently estimated to begin in 2011, with radiological laboratory operations commencing in about 2012.

Chemistry and Metallurgy Research Building Replacement Project Terminology

Chemistry and Metallurgy Research Building (CMR Building) – refers to the existing building in Technical Area (TA-3) that was built primarily in the 1950's.

Chemistry and Metallurgy Research Building Replacement Facility (CMRR Facility) – refers to the entire facility conceived to replace the CMR Building; it comprises a nuclear facility and a support facility (see below).

Radiological Laboratory/Utility/Office Building (RLUOB) – refers to the administrative and support facility component of the CMRR Facility. The RLUOB has been constructed in TA-55.

Chemistry and Metallurgy Research Building Replacement Project Nuclear Facility (CMRR-NF) – refers to nuclear facility component or portion of the CMRR Facility. Construction of the CMRR-NF in TA-55 adjacent to RLUOB is the subject of this supplemental environmental impact statement.

Project planning and design for the CMRR-NF was initiated in 2004, but has progressed along a slower timeline than projected in the *CMRR EIS*. In early 2005, NNSA initiated a site-wide environmental impact statement for the continued operation of LANL, the *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (LANL SWEIS)* (DOE/EIS-0380) (DOE 2008a); a year later, in October 2006, NNSA initiated preparation of the *Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS)* (DOE 2008b) to consider the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile (DOE/EIS-0236-S4). While these two environmental impact statements (EISs) were being prepared, CMRR-NF planning was deliberately limited to preliminary planning and design work, and NNSA deferred implementing its decision to construct the CMRR-NF at LANL so as not to limit the range of reasonable alternatives.

Both the *LANL SWEIS* and the *Complex Transformation SPEIS* were issued in 2008. Among the various decisions supported by the analysis contained in the *Complex Transformation SPEIS* was the programmatic decision to retain manufacturing and research and development capabilities involving plutonium at LANL and, in partial support of those activities, to construct and operate the CMRR-NF at LANL in accordance with the 2004 *CMRR EIS* ROD. These decisions were issued in a December 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). Among the various decisions supported by the analysis contained in the 2008 *LANL SWEIS* were decisions regarding the programmatic level of operations at LANL facilities (including the CMRR Facility) for at least the next 5 years and project-specific decisions for individual projects at LANL, including those at TA-55 and within surrounding and nearby TAs along the Pajarito Road corridor. These decisions were issued in a September 2008 *LANL SWEIS* ROD (73 FR 55833) and a June 2009 *LANL SWEIS* ROD (74 FR 33232). Congressional funding has been appropriated to proceed with the CMRR-NF planning process.

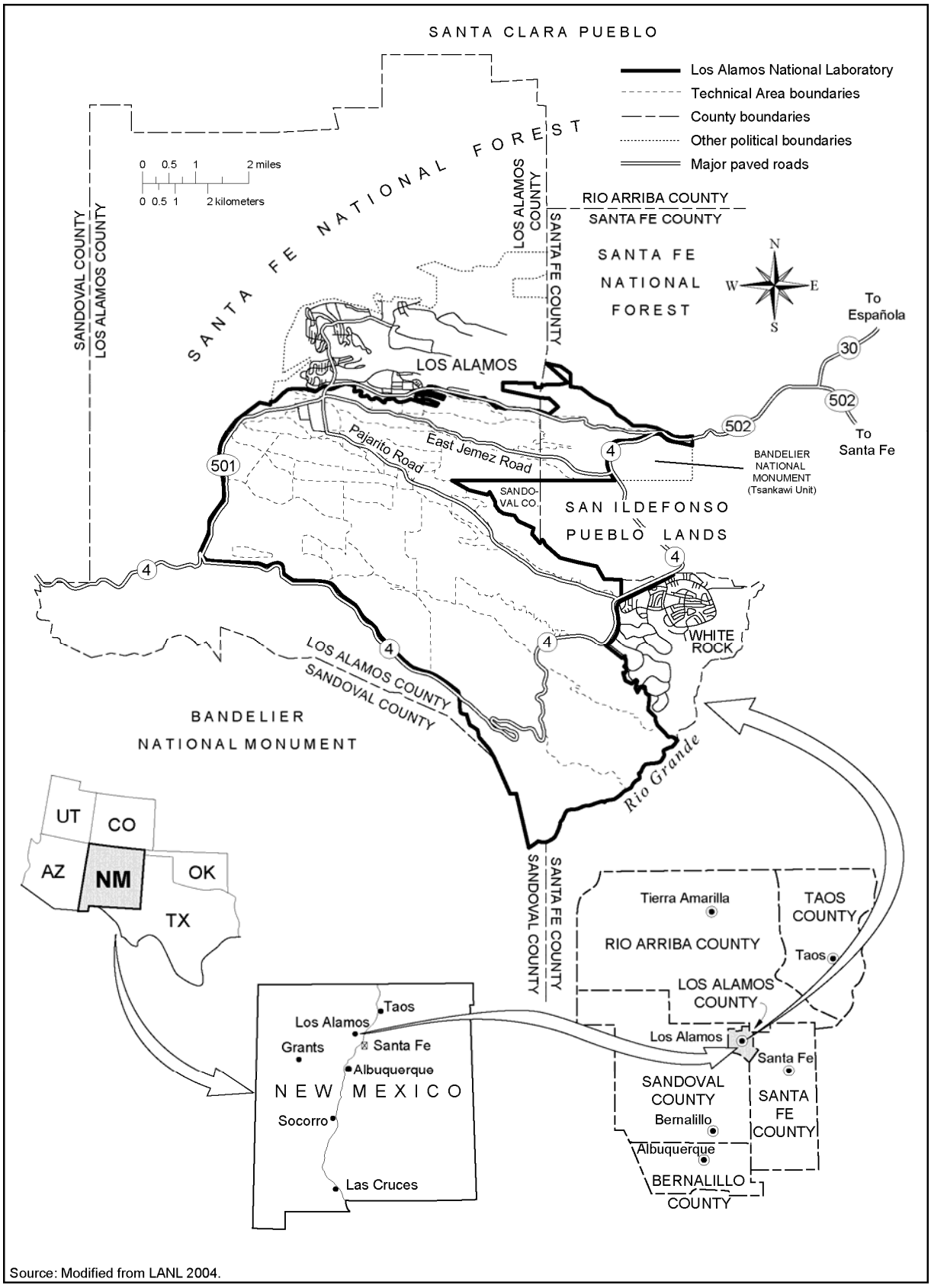
Over the past 8 years, the CMRR-NF planning process has identified several design considerations that were not envisioned in 2003, when the *CMRR EIS* was prepared and issued. Several ancillary and support requirements have also been identified in addition to those identified and analyzed in the *CMRR EIS*. Two support actions—installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards (115,000 cubic meters) of geologic material per year from the building site and other LANL construction projects to other LANL locations for storage—were identified early enough to be included in the 2008 *LANL SWEIS* environmental impact analyses and the September 2008 *LANL SWEIS* ROD. Both the 2008 and 2009 *LANL SWEIS* RODs identified NNSA's selection of the No Action Alternative for the baseline level of overall operations for the various LANL facilities, which included the implementation of actions selected in the 2004 *CMRR EIS* ROD. These actions included construction and operation of the two-building CMRR Facility at TA-55, transfer of operations from the old CMR Building and its ultimate demolition, and the two support actions mentioned above. This *CMRR-NF SEIS* addresses the CMRR-NF design alternatives, as well as updated information on the ancillary and support activities, that have developed since the *CMRR EIS* and *LANL SWEIS* were published.

NNSA decided in 2008, and again in 2009, to continue to defer certain programmatic decisions until after the release of the Administration's next *Nuclear Posture Review Report*, which was issued in April 2010 (DoD 2010). To date, no further related programmatic decisions have been announced by NNSA since this report was released, although additional decisions may be announced later through the NEPA compliance process.

1.2 Background

LANL was originally established in 1943 as "Project Y" of the Manhattan Project in northern New Mexico, within what is now the Incorporated County of Los Alamos (see **Figure 1–1**). Project Y had a single national defense mission—to build the world's first nuclear weapon. After World War II ended, Project Y was designated a permanent research and development laboratory, the Los Alamos Scientific Laboratory. It was renamed LANL in the 1980s, when its mission was expanded from defense and related research and development to incorporate a wide variety of new assignments in support of Federal Government and private sector programs. LANL is now a multidisciplinary, multipurpose institution primarily engaged in theoretical and experimental research and development.

LANL occupies about 40 square miles (104 square kilometers) of land on the eastern flank of the Jemez Mountains along the area known as the Pajarito Plateau. The terrain in the LANL area consists of mesa tops and canyon bottoms that trend in a west-to-east manner, with the canyons intersecting the Rio Grande to the east of LANL. Elevations at LANL range from about 7,800 feet (2,400 meters) at the highest point on the western side to about 6,200 feet (1,900 meters) at the lowest point along the eastern side, above the Rio Grande. The two primary residential areas within County are the Los Alamos townsite and the White Rock residential development (see Figure 1–1). Together, these two residential areas are home to about 18,400 people. About 13,000 people work at LANL, only about half of whom reside within Los Alamos County. LANL operations occur within numerous facilities located over 47 designated TAs within the LANL boundaries and at other leased properties situated near LANL. The 47 contiguous LANL TAs (which are not numbered sequentially) have been established so that they segregate the entire LANL site (see **Figure 1–2**). Most of LANL is undeveloped forested land that provides a buffer for security and safety, as well as expansion opportunities for future use. About 46 percent of the square footage of LANL facilities is considered laboratory or production space; the rest is considered administrative, storage, service, and miscellaneous space (LANL 2011).



Source: Modified from LANL 2004.

Figure 1–1 Location of Los Alamos National Laboratory

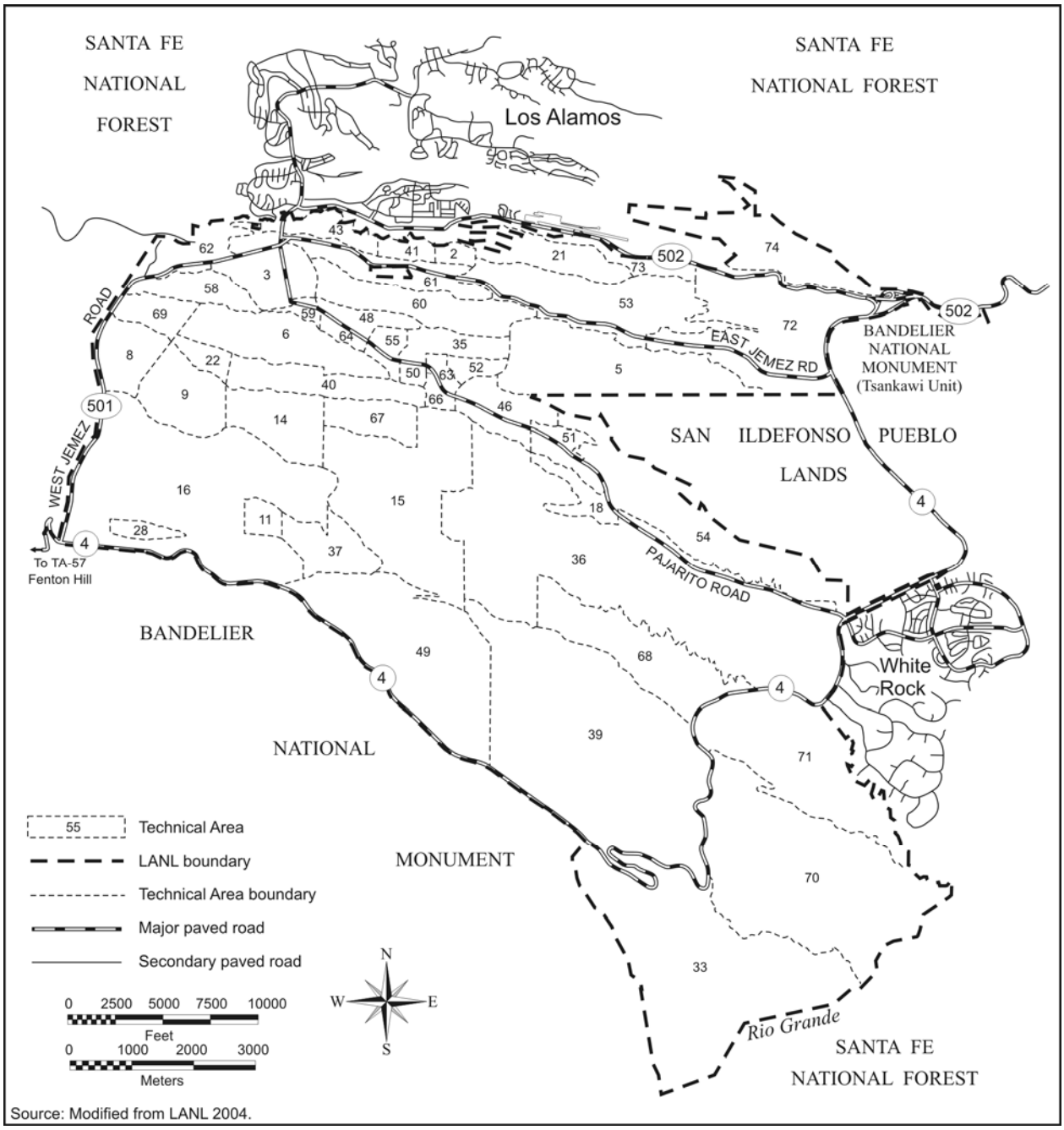


Figure 1–2 Identification and Location of Los Alamos National Laboratory Technical Areas

Since its creation in 2000, NNSA has had the following congressionally assigned missions: (1) to enhance U.S. national security through the military application of nuclear energy; (2) to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile to meet national security requirements, including the ability to design, produce, and test; (3) to provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of these plants; (4) to promote international nuclear safety and nonproliferation efforts; (5) to reduce the global danger from weapons of mass destruction; and (6) to support U.S. leadership in science and technology (50 U.S.C. 2401(b)). Congress identified LANL as one of three national security laboratories to be administered by NNSA for DOE. As NNSA's mission is a subset of DOE's original mission assignment, the work performed at LANL in support of NNSA has remained unchanged in character from that

performed for DOE prior to NNSA's creation. Specific LANL assignments for the foreseeable future include (1) production of weapons components, (2) assessment and certification of the nuclear weapons stockpile, (3) surveillance of weapons components and weapon systems, (4) assurance of the safe and secure storage of strategic materials, and (5) management of excess plutonium inventories. NNSA mission objectives at LANL include providing a wide range of scientific and technological capabilities that support nuclear materials handling, processing, and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities.

NNSA and DOE generally assign mission element work to LANL[4] based on the facilities and expertise of the staff located there, as well as other factors. Theoretical research (including analysis, mathematical modeling, and high-performance computing), experimental science and engineering, advanced and nuclear materials research, and development of applications (including weapons components testing, fabrication, stockpile assurance, replacement, surveillance, and maintenance) are performed at LANL using the facilities and staff there. These capabilities allow activities—such as high-explosives processing, chemical research, nuclear physics research, materials science research, systems analysis and engineering, human genome mapping, and research and development of biotechnology applications and remote sensing technologies—to be performed that can be applied to resource exploration and environmental surveillance activities conducted at LANL.

In the mid-1990s, DOE, in response to direction from the President and Congress, developed the Stockpile Stewardship and Management Program (now the Stockpile Stewardship Program) to provide a single, highly integrated technical program for maintaining the continued safety and reliability of the nuclear weapons stockpile. Stockpile stewardship comprises activities associated with research, design, and development of nuclear weapons; maintaining the knowledge base and capabilities needed to support testing of nuclear weapons and the assessment and certification of their safety and reliability. Stockpile management includes operations associated with producing, maintaining, refurbishing, surveilling, and dismantling the nuclear weapons stockpile. Mission-essential work conducted at LANL provides science, research and development, and production support to these NNSA missions, with a special focus on national security.

A particularly important facility at LANL is the nearly 60-year-old CMR Building (Building 3-29) located in TA-3 (see **Figure 1–3**), which has unique capabilities for performing AC, MC and actinide[5] research and development related to SNM. Actinide science-related mission work at LANL ranges from the plutonium-238 heat source program conducted for the National Aeronautics and Space Administration to arms control technology development. CMR Building operations support a number of critical national security missions, including nuclear nonproliferation programs and the manufacturing, development, and surveillance of nuclear weapons pits.[6] Pit production mission support work was first assigned to LANL in 1996 in the ROD for the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (61 FR 68014). DOE later determined how and where it would conduct that mission support work through the 1999 *LANL SWEIS* (DOE 1999a) and its associated ROD (64 FR 50797). Since 2000, pit production at LANL has been established within the Plutonium Facility Complex at TA-55 (see Figure 1–3), and several certified pits[7] have been produced over the past 5 years in that facility. Pit production does not take place at the CMR Building and would not take place in any CMRR facility.

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[4] *Additional information regarding DOE and NNSA work assignments at LANL is presented in both the 1999 and 2008* LANL SWEISs. *These documents and other related documents can be found on the Internet at http://nepa.energy.gov/DOE_NEPA_documents.htm and http://www.lanl.gov/.*

[5] *"Actinide" refers to any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.*

[6] *A pit is the central core of a primary assembly in a nuclear weapon typically composed of plutonium-239 and/or highly enriched uranium and other materials.*

[7] *A certified pit meets the specifications for use in the U.S. nuclear stockpile.*

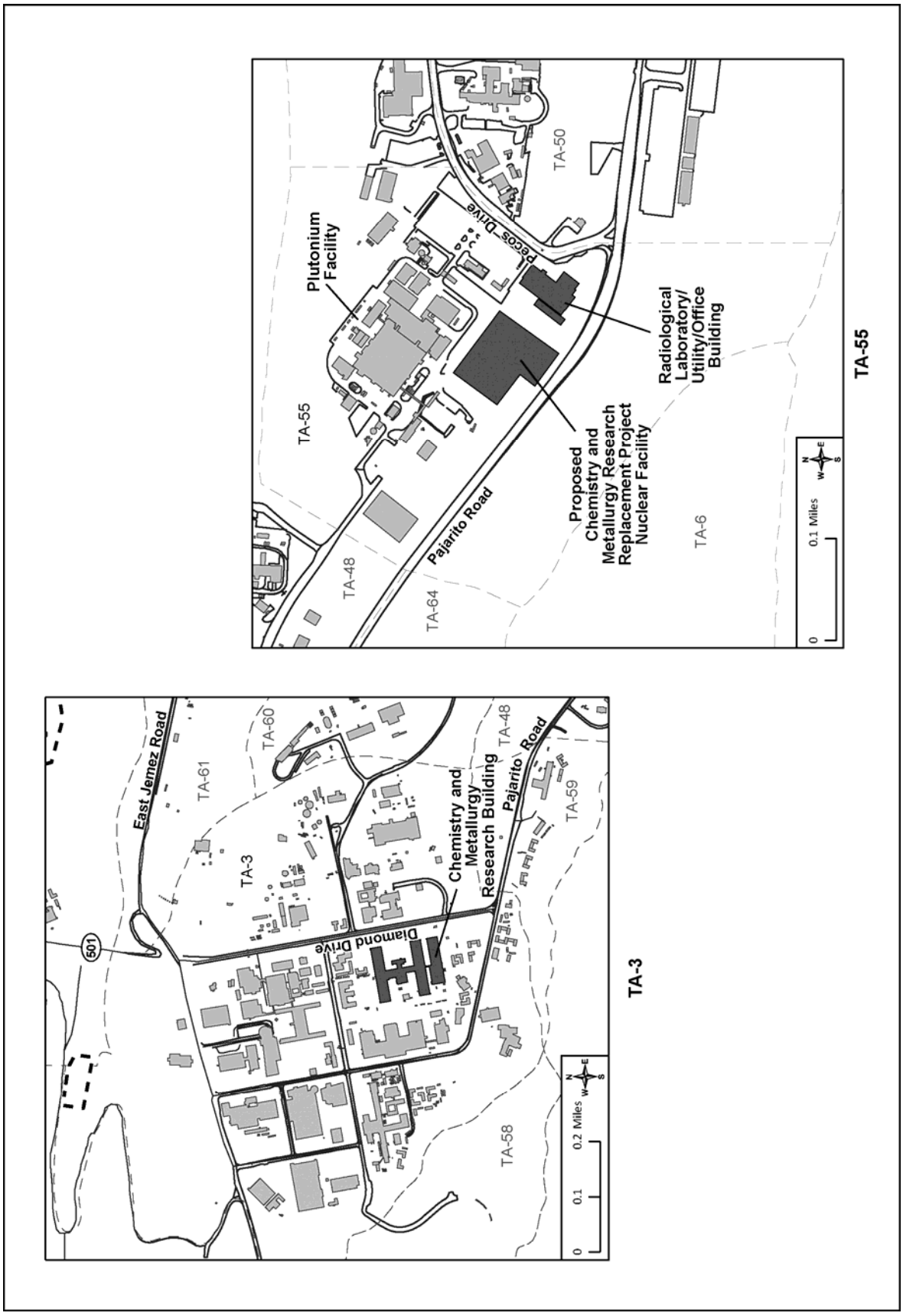

Figure 1–3 Location of Facilities in Technical Areas 3 and 55

Construction of the CMR Building was initiated in 1949 and completed in 1952. The CMR Building is a three-story building composed of a central corridor and eight wings, with over 550,000 square feet (51,000 square meters) of working area, including laboratory spaces and administrative and utility areas. The CMR Building is currently designated as a Hazard Category 2, Security Category III nuclear facility. Its main function is to house research and development capabilities involving AC, MC, and metallurgic studies on actinides and other metals. AC and MC services support virtually all nuclear programs at LANL. These activities have been conducted almost continuously in the CMR Building since it became operational in 1952; however, with the closure of Wing 2 (see following paragraphs), the broad spectrum of MC work once performed at the CMR Building has been relocated to other wings of the CMR Building or has been suspended.

The CMR Building was initially designed and constructed to comply with the building codes in effect during the late 1940s and early 1950s. In the intervening years, a series of upgrades have been performed to address changing building and safety requirements. In 1992, DOE initiated planning and implementation of additional CMR Building upgrades to address specific safety, reliability, consolidation, and safeguards and security issues with the intent to extend the useful life of the CMR Building for an additional 20 to 30 years. Many of the utility systems and structural components were recognized then as being aged, outmoded, and generally deteriorating. Beginning in about 1997 and continuing to the present, a series of operational, safety, and seismic issues have surfaced. A 1998 seismic study identified two small parallel faults beneath the northernmost portion of the CMR Building (LANL 1998). No other faults were detected. The presence of these faults gave rise to operational and safety concerns related to the structural integrity of the building in the event of seismic activity along this portion of the Pajarito Fault System. These issues have partially been addressed by administratively restricting the amount of material stored within the building and in use at any given time, completely removing operations from three wings of the building, and generally limiting operations in the other three laboratory wings that remain functional. Upgrades to the building that were necessary at the time have since been undertaken to allow the building to continue functioning while ensuring safe and reliable operations. The planned closeout of nuclear laboratory operations within the CMR Building was previously estimated to occur in or around the year 2010; however, with the limited upgrades on selective facility systems and operational restrictions implemented, NNSA plans to continue to operate the nuclear laboratories in the building until the building can no longer operate safely, a replacement facility is available, or NNSA makes other operational decisions.

1.3 Purpose and Need for Agency Action

The purpose and need for NNSA action has not changed since issuance of the 2003 *CMRR EIS*. NNSA needs to act to provide the physical means for accommodating the continuation of mission-critical AC and MC capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner. Concurrently, NNSA proposes to take advantage of the opportunity to consolidate AC and MC activities for the purpose of increasing operational efficiency and enhancing security.

AC and MC activities historically conducted at the CMR Building are fundamental capabilities required for support of all DOE and NNSA nuclear mission work at LANL. CMR capabilities have been available at LANL for the entire history of the site since the mid-1940s, and these capabilities remain critical to future work at the site. As discussed above, the CMR Building's nuclear operations and capabilities are currently restricted to maintain compliance with safety requirements. Due to facility limitations, the CMR Building is not being operated to the full extent needed to meet DOE and NNSA operational requirements for the foreseeable future. In addition, consolidation of like activities at TA-55 would enhance operational efficiency in terms of security, support, and risk reduction related to handling and transportation of nuclear materials.

1.4 Scope and Alternatives

This section introduces the three alternatives analyzed in this *CMRR-NF SEIS* for carrying out AC and MC operations at LANL. These alternatives are addressed in more detail in Chapter 2, Section 2.6. See Section 2.7 for a discussion of alternatives that were considered and dismissed from detailed analysis.

- ***No Action Alternative (2004 CMRR-NF):*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD, with two additional project activities (management of excavated soils and tuff and a new substation) analyzed in the 2008 *LANL SWEIS.* Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a Performance Category 3 (PC-3)[8] structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed.

- ***Modified CMRR-NF Alternative:*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, with certain design and construction modifications and additional support activities that address seismic safety, infrastructure enhancements, nuclear safety-basis requirements and sustainable design principles (sustainable development – see glossary). This alternative has two construction options: the Deep Excavation Option and the Shallow Excavation Option. All necessary AC and MC operations could be performed as required to safely conduct the full suite of NNSA mission work. The Modified CMRR-NF embodies the maturation of the 2004 CMRR-NF design to meet all safety standards and operational requirements.

- ***Continued Use of CMR Building Alternative:*** Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain programmatic operations for as long as feasible. Certain AC and MC operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55.

1.4.1 No Action Alternative

Under the No Action Alternative, NNSA would implement the decisions made in the 2004 *CMRR EIS,* the *Complex Transformation SPEIS* ROD, and the 2008 *LANL SWEIS* RODs. NNSA would construct the new CMRR-NF (referred to as the "2004 CMRR-NF") at LANL within TA-55 next to the already constructed RLUOB (see Figure 1–3). The 2004 CMRR-NF would be an aboveground building described under Alternative 1, Construction Option 3, in the 2003 *CMRR EIS*. As part of the No Action Alternative, which was selected in the *LANL SWEIS* ROD, the 2008 *LANL SWEIS* evaluated (1) the transportation and storage of up to 150,000 cubic yards (115,000 cubic meters) per year of excavated soil or spoils (soil and rock material) from the 2004 CMRR-NF construction and other construction projects that could be undertaken at the site and (2) installation of a new substation on the existing 13.8-kilovolt power distribution loop in TA-50 to provide independent power feed to the existing TA-55 Plutonium Complex and the new CMRR Facility.

[8] *Each structure, system, and component in a DOE facility is assigned to one of five performance categories depending upon its safety importance. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002c).*

AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would be relocated in stages over 2 to 4 years from their current locations at the CMR Building to the 2004 CMRR-NF; those operations and activities would continue in the 2004 CMRR-NF over about a 50-year period. After laboratory operations are removed from the CMR Building, it would undergo DD&D activities. Following the closeout of operations at the new 2004 CMRR-NF toward the end of the twenty-first century, DD&D activities at that facility would occur. The phased elimination of CMR Building operations was originally estimated to be completed by around 2010; completion is now projected by about 2023.

Construction of the 2004 CMRR-NF would include the construction of connecting tunnels to RLUOB and the TA-55 Plutonium Facility, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support areas (such as material laydown areas, a concrete batch plant, and equipment storage and parking areas). The construction force would peak at 300 workers. Each of these actions and activities was described in the 2003 *CMRR EIS*, the 2008 *LANL SWEIS*, and the 2008 *Complex Transformation SPEIS*. Specifically, NNSA would build the 2004 CMRR-NF at TA-55 as one building of a two-building CMRR Facility (under Alternative 1, Construction Option 3, as analyzed in the *CMRR EIS* and selected in the *CMRR EIS* ROD).

The 2004 CMRR-NF would be entirely designed as a Hazard Category 2 facility. The 2004 CMRR-NF would have a building "footprint" measuring about 300 by 210 feet (91 by 64 meters) and would comprise approximately 200,000 square feet (18,600 square meters) of solid floor space divided between two stories, and would also include one steel grating "floor" where mechanical and other support systems would be located and one small roof cupola enclosing the elevator equipment. The 2004 CMRR-NF would have an aboveground portion (consisting of a single story) that would house the Hazard Category 3 laboratories and a belowground portion (consisting of a single story) that would house the Hazard Category 2 laboratories and extend an average of 50 feet (15 meters) below ground. The total amount of laboratory workspace where mission-related AC and MC operations would be performed was not stated in the 2003 *CMRR EIS*. In 2004, the estimate of 22,500 square feet (2,100 square meters) of laboratory space was provided as a result of NNSA/LANL integrated nuclear planning activities (DOE 2005b). Fire protection systems for the 2004 CMRR-NF would be developed and integrated with the existing exterior TA-55 site-wide fire protection water storage tanks and services.

As it was envisioned to be constructed in the *CMRR EIS*, the 2004 CMRR-NF could not satisfy current facility seismic and nuclear safety requirements. Therefore, the 2004 CMRR-NF would not be able to safely function at a level sufficient to fully satisfy DOE and NNSA mission support needs, and thus would not fully meet DOE's stated purpose and need for taking action. The 2004 CMRR-NF would not be constructed.

1.4.2 Modified CMRR-NF Alternative

Under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, NNSA would construct the new CMRR-NF (referred to as the "Modified CMRR-NF") at TA-55 next to the already constructed RLUOB, as identified in the No Action Alternative, with certain construction enhancements and additional associated construction support activities. The structure would be constructed to meet the current *International Building Code*; Leadership in Energy and Environmental Design® (LEED) certification requirements, as applicable; and DOE requirements for nuclear facilities, including projected seismic event response performance and nuclear safety basis requirements based on new site geologic information, fire protection, and security requirements. As under the No Action Alternative, AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would be relocated in stages from their current locations at the CMR Building and the TA-55 Plutonium Facility to the Modified CMRR-NF, where operations and activities are expected to continue over about the next 50 years. The phased elimination of CMR Building operations is projected to be completed by

about 2023. Both the CMR Building and Modified CMRR-NF would undergo DD&D after operations are discontinued, as identified under the No Action Alternative.

Under this alternative, the Modified CMRR-NF construction phase would also include the construction of connecting tunnels, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support areas identified under the No Action Alternative. Implementing the Modified CMRR-NF Alternative construction would require the use of additional structural concrete and reinforcing steel for the construction of the building's walls, floors, and roof; additional soil excavation, soil stabilization, and special foundation work would also be necessary. Also, a set of fire suppression water storage tanks would be located within the building, rather than connecting with the existing fire suppression system at TA-55. Additional temporary and permanent actions required to construct the Modified CMRR-NF under this alternative beyond those actions identified under the No Action Alternative would include (1) additional construction personnel, (2) the installation and use of additional parking areas, construction equipment and building materials storage areas, excavation spoils storage areas, craft worker office and support trailers, and personnel security and training facilities; (3) the installation and use of up to two additional concrete batch plants (for a total of three) and a warehouse building; and (4) the installation of overhead power lines, site stormwater detention ponds, road realignments, turn lanes, intersections, and traffic flow measures at various locations.

Under the Modified CMRR-NF Alternative, the Modified CMRR-NF would also be an above- and belowground structure. The amount of laboratory floor space where AC and MC operations would occur would be about the same as described under the No Action Alternative (22,500 square feet [2,100 square meters]). The estimated building "footprint" is about 342 feet long by 304 feet wide (104 meters by 91 meters), with about 344,000 square feet (32,000 square meters) of usable floor space divided among four stories and a partial roof level.

The footprint of the Modified CMRR-NF is larger than that of the 2004 CMRR-NF due to space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork and the addition of safety-class fire suppression equipment, plus the associated electrical equipment. This equipment added 42 feet (13 meters) to the building in one dimension. The addition of 92 feet (28 meters) in the other dimension was to provide corridor space for movement of equipment, to avoid interference between systems (mechanical, electrical, piping), and to allow enough space for maintenance, repair and inspection, and mission support activities (maintenance shop, waste management areas, and radiological protection areas). Part of the increase in building footprint over the 2004 CMRR-NF is due to thicker walls and other structural features required by current seismic and nuclear safety requirements.

The Modified CMRR-NF Alternative includes two construction options, designated as the Deep Excavation Option and the Shallow Excavation Option. Under either option, the Modified CMRR-NF would be designed to meet all current facility operations requirements. Under the Deep Excavation Option, NNSA would excavate and backfill the building footprint area down to a depth below a poorly welded tuff layer that lies from about 75 feet (23 meters) to 130 feet (40 meters) below the original ground level. Then the excavated site would be partially backfilled with low-slump concrete to form a 60-foot-thick (18-meter-thick) engineered building site. Three of the building's floors would be located below ground; the fourth floor and a roof equipment penthouse would be above ground. The removed geologic material would be transported to storage areas at LANL for reuse in other construction projects or for landscaping purposes. The remainder of the construction activities would be as described previously under the No Action Alternative. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basemat well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer. Under this option, the Modified CMRR-NF's base elevation would be about 8 feet (2.4 meters) lower than the excavation described under the No Action Alternative. Engineered backfill would be used to

bury the building to the vault roof level. The building would have three stories below ground on the northwest and two stories below ground on the southeast due to site sloping, with two stories and a partial roof level above ground on the southeast.

There is no preferred construction option at this time. The Deep Excavation Option is more mature, having undergone technical review by NNSA, NNSA's contractors, and the Defense Nuclear Facilities Safety Board. At this time, there is more uncertainty with the Shallow Construction Option. The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis.

The Modified CMRR-NF, as envisioned to be constructed under this alternative, would meet all applicable codes and standards for new nuclear facility construction. Therefore, implementing this alternative would allow operations within the Modified CMRR-NF that would fully satisfy DOE and NNSA mission support needs. This alternative would fully meet NNSA's stated purpose and need for taking action.

1.4.3 Continued Use of CMR Building Alternative

Under the Continued Use of CMR Building Alternative, NNSA would continue to carry out laboratory operations in the CMR Building at TA-3, with radiological laboratory and administrative support operations moving to the newly constructed RLUOB, located in TA-55. The continued operation of the CMR Building over an extended period (years to decades) would result in continued reduction of laboratory space as operations are further consolidated or eliminated due to safety concerns. It may also include the administrative reduction of "materials at risk" as necessary within portions of the CMR Building as routine safety and security measures to ensure continued safe worker conditions.

This alternative would result in very limited AC and MC capabilities at LANL over the extended period, and these capabilities could gradually become more limited and more focused on supporting plutonium operations, depending on the overall ability of the CMR Building to be safely operated and maintained in a physically prudent fashion. Moving the TA-3 CMR Building personnel and radiological laboratory functions into RLUOB over the next couple of years would result in considerable operational inefficiencies because personnel would have to travel by vehicle between offices and radiological laboratories at RLUOB and Hazard Category 2 laboratories that remain in the CMR Building. Additionally, the overall laboratory space allotted for certain functions might have to be duplicated at the two locations. When AC and MC laboratory operations eventually cease in the CMR Building, the building would undergo DD&D.

This alternative does not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in this *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal budgetary constraints.

1.5 Decisions to be Supported by this *CMRR-NF SEIS*

NNSA must decide whether to implement one of the alternatives wholly or one or more of the alternatives in part. NNSA may choose to implement either of the action alternatives in its entirety as described and analyzed in this *CMRR-NF SEIS*, or it may elect to implement only a portion of the alternatives.

The environmental impact analyses of the alternatives considered in this *CMRR-NF SEIS* provide the NNSA decisionmakers with important environmental information to assist in the overall CMRR-NF decisionmaking process. The 2008 *Complex Transformation SPEIS* provided the

environmental impacts basis for the NNSA Administrator's decision to programmatically retain the plutonium-related manufacturing and research and development capabilities at LANL and, in support of those activities, to maintain AC and MC functions at LANL during CMRR-NF construction and operations in accordance with the earlier *CMRR EIS* ROD. These decisions were issued in the 2008 *Complex Transformation SPEIS* ROD. Remaining project-specific decisions to be made by the NNSA Administrator regarding the CMRR-NF include (1) whether to construct a Modified CMRR-NF to meet recently identified building construction requirements and implement all or some of the additional construction support activities identified under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative; or (2) whether to forgo construction of the CMRR-NF in favor of continuing to operate the CMR Building as a Hazard Category 2 Nuclear Facility with a restricted level of operations for mission support work under the Continued Use of CMR Building Alternative. The remaining alternative, to construct the 2004 CMRR-NF as it was described and analyzed in the 2003 *CMRR EIS* and its associated 2004 ROD, the 2008 *LANL SWEIS*, the *Complex Transformation SPEIS* and its associated ROD, and in this *CMRR-NF SEIS* as the No Action Alternative, does not meet NNSA's purpose and need and thus, would not be implemented.

NNSA is not planning to revisit decisions at this time related to maintenance of CMR operational capabilities at LANL to support critical NNSA missions reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. AC and MC capabilities were a fundamental component of Project Y during the Manhattan Project era, and the decision to facilitate these capabilities at the Los Alamos site was made originally by the U.S. Army Corps of Engineers, Manhattan District. DOE's predecessor agency, the Atomic Energy Commission, made the decision to continue support for and expand AC and MC capabilities at LANL after World War II; the CMR Building was constructed to house these needed capabilities. DOE considered the issue of maintaining CMR capabilities (along with other capabilities at LANL) in 1996 as part of its review of the Stockpile Stewardship Program and made decisions at that time that required the retention of CMR capabilities at LANL. DOE concluded in the 1999 *LANL SWEIS* ROD that, due to a lack of information on proposal(s) for replacement of the CMR Building to provide for its continued operations and capabilities support, it was not the appropriate time to make specific decisions on the project. With the support of the 1999 *LANL SWEIS* impact analyses, however, DOE made a decision on the level of operations at LANL that included the capabilities housed by the CMR Building. In 2003, NNSA prepared the *CMRR EIS* and, in 2004, issued its implementation decisions for locating the CMRR Facility at LANL in TA-55, for constructing a two-building CMRR Facility with Hazard Category 2 operations below ground, and for the DD&D of the existing CMR Building after all operations were re-established at the new CMRR Facility. The 2008 *LANL SWEIS* supported NNSA decisions on the level of operations at LANL that included both the operational capabilities housed by the CMR Building and the construction of the CMRR Facility at TA-55. However, NNSA deferred implementing decision(s) on the CMRR-NF until completion of the programmatic impact analysis (the *Complex Transformation SPEIS*) for transforming the nuclear weapons complex into a smaller, more-efficient enterprise. In December 2008, NNSA issued its decisions on the nuclear enterprise, which included the decision to construct and operate the CMRR-NF at LANL as identified in the *CMRR EIS* ROD. There is no current proposal to change or modify the operation of the CMRR-NF as it was described in these prior NEPA documents, nor is there any current proposal to change the disposition of the existing CMR Building after it has been decommissioned and decontaminated.

NNSA is not planning to revisit decision(s) made recently on actions geographically located along the LANL Pajarito Mesa (where TA-55 is located) or along the Pajarito Road corridor (which transverses portions of Pajarito Mesa and Pajarito Canyon). These actions include the following:

- Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) activities, which focus on upgrading various intrusion alarm systems and related security measures for existing LANL facilities

- Plutonium Facility Complex Refurbishment Project, also referred to as the "TA-55 Reinvestment Projects," which focuses on refurbishing and repairing the major building systems at the TA-55 Plutonium Facility to extend its reliable future operations

- Replacement of the existing, aging Radioactive Liquid Waste Treatment Facility with a new smaller-capacity facility

- Replacement of the TRU [transuranic] Waste Facility with a new smaller-capacity facility, which is necessary to facilitate implementation of the TA-54 Material Disposal Area G low-level radioactive waste disposal site closure

- Closure of various material disposal areas at LANL at the direction of the New Mexico Environment Department and in compliance with a Compliance Order on Consent (Consent Order)[9]

- Continuation of waste disposal projects and programs, including the Waste Disposition Project at TA-54

- Occupancy and operation of RLUOB

With the exception of NNSA's 2004 decision to construct and operate RLUOB, the other projects and programs listed above were analyzed in the 2008 *LANL SWEIS*, and decisions were made to implement these actions in the 2008 and 2009 *LANL SWEIS* RODs. These actions are not connected to or dependent on the alternatives evaluated in this *CMRR-NF SEIS.*

NNSA may make new, additional decisions in the future on other actions analyzed in the *LANL SWEIS* and *Complex Transformation SPEIS*, such as the need for the construction of some additional replacement buildings to house ongoing LANL operations and to make modifications to facility operations at LANL. As appropriate, any such decision(s) would be announced in one or more new RODs, which would be published in the *Federal Register* and be made publicly available on the Internet. New NEPA documents appear on the DOE NEPA website at http://nepa.energy.gov/.

1.6 Other National Environmental Policy Act Documents

Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (Stockpile Stewardship and Management PEIS) (DOE/EIS-0236). In September 1996, DOE issued the *Stockpile Stewardship and Management PEIS* (DOE 1996a), which evaluated the potential environmental impacts resulting from activities associated with nuclear weapons research, design, development, and testing, as well as the assessment and certification of weapons' safety and reliability. The document

[9] *In March 2005, the New Mexico Environment Department, DOE, and the LANL management and operating contractor entered into a Compliance Order on Consent (Consent Order) (NMED 2005). The purposes of the Consent Order are (1) to define the nature and extent of releases of contaminants at, or from, LANL; (2) to identify and evaluate, where needed, alternatives for corrective measures to clean up contaminants in the environment and prevent or mitigate the migration of contaminants at, or from, LANL; and (3) to implement such corrective measures.*

analyzed the development of three new facilities to provide enhanced experimental capabilities. In the December 26, 1996, *Stockpile Stewardship and Management PEIS* ROD (61 FR 68014), DOE elected to downsize a number of weapons complex facilities, build the National Ignition Facility at Lawrence Livermore National Laboratory, and re-establish a pit fabrication capability at LANL. A supplement analysis (DOE/EIS-0236-SA) was prepared to examine the plausibility of a building-wide fire at the TA-55 Plutonium Facility and to examine new studies regarding seismic hazards at LANL. The supplement analysis concluded that there was no need to prepare an SEIS. The impacts of this decision were included in the baseline assessment and in the potential cumulative impacts resulting from the *CMRR EIS* proposed action. In addition, as identified in the *CMRR EIS* Notice of Intent (67 FR 48160), CMR capabilities at LANL supported the Stockpile Stewardship Program mission addressed in the *Stockpile Stewardship and Management PEIS*.

Environmental Assessment for the Proposed CMR Building Upgrades at the Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EA-1101). In February 1997, DOE issued this environmental assessment (DOE 1997a) that analyzed the effects that could be expected from performing various necessary extensive structural modifications and systems upgrades at the existing CMR Building. Changes to the CMR Building included structural modifications needed to meet then-current seismic criteria and building ventilation, communications, monitoring, and fire protection systems upgrades and improvements. A Finding of No Significant Impact was issued on the CMR Building Upgrades Project on February 11, 1997.

As mentioned in Section 1.2, these upgrades were intended to extend the useful life of the CMR Building for an additional 20 to 30 years. However, beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive upgrades originally planned for the CMR Building would be much more time-consuming than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. As a result, DOE reduced the number of CMR Building upgrade projects to only those needed to ensure safe and reliable operations through at least the year 2010. CMR Building operations and capabilities are currently being restricted to ensure compliance with safety and security constraints. The CMR Building is not fully operational to the extent needed to meet DOE and NNSA requirements. In addition, continued support of NNSA's existing and evolving mission roles at LANL was anticipated to require additional capabilities, such as the ability to remediate large containment vessels.

Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS) (DOE/EIS-0350). Issued in 2003, the *CMRR EIS* (DOE 2003b) examined the potential environmental impacts associated with the proposed action of consolidating and relocating the mission-critical CMR capabilities from an aging building to a new modern building (or buildings). NNSA issued its decision to construct a two-building CMRR Facility adjacent to the Plutonium Facility Complex in TA-55 in the 2004 ROD (69 FR 6967). Design and construction of RLUOB has been completed, and that building is currently being outfitted for occupancy in 2011.

Supplement Analysis, Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory, Los Alamos, New Mexico: Changes to the Location of the CMRR Facility Components (CMRR SA) (DOE/EIS-0350-SA-01). Issued in 2005, the *CMRR SA* (DOE 2005a) was prepared to evaluate placement of the administrative and support building (now RLUOB) for the CMRR Project in the same vicinity, but at locations other than those detailed in the *CMRR EIS* ROD. NNSA concluded that the environmental impacts of the proposed action were adequately bounded by the analyses of impacts presented in the 2003 *CMRR EIS*, and no SEIS was required. However, the RLUOB site location was later changed back to the location originally

considered in the 2003 *CMRR EIS*, and the building site considered in the *CMRR SA* was used, as proposed and analyzed in the 2003 *CMRR EIS*, as a location for a permanent paved parking area and temporary construction trailers and other support functions.

Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (LANL SWEIS) (DOE/EIS-0380). In the 2008 *LANL SWEIS* (DOE 2008a), NNSA analyzed the potential environmental impacts associated with continued operation of LANL. The three alternatives analyzed the environmental impacts of three levels of operations: No Action, Reduced Operations, and Expanded Operations. Under the No Action Alternative, LANL would operate at the levels selected in the 1999 *LANL SWEIS* ROD and implement other LANL activities that had undergone NEPA analyses since 1999. The 2008 *LANL SWEIS* stated that construction of RLUOB had begun, but construction of the CMRR-NF would be delayed until NNSA had completed and issued certain programmatic NEPA analyses and decisions. Two support actions that would potentially support CMRR-NF construction and operation (installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards [115,000 cubic meters] of geologic material per year from the CMRR-NF building site and other construction sites to other LANL locations for storage) were included in the 2008 *LANL SWEIS* environmental impact analyses. The first ROD for the 2008 *LANL SWEIS* was issued on September 26, 2008 (73 FR 55833), and a second ROD was issued on July 10, 2009 (74 FR 33232). Both RODs selected implementation of the No Action Alternative, which included construction and operation of the CMRR Facility as described in the No Action Alternative for this *CMRR-NF SEIS*, and the additional support activities analyzed under that alternative, as well as certain elements from the Expanded Operations Alternative.

Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS) (DOE/EIS-0236-S4). The *Complex Transformation SPEIS* was issued on October 24, 2008 (DOE 2008c); it analyzed the environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more-efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile. Programmatic alternatives considered in the *Complex Transformation SPEIS* specifically addressed facilities that use or store significant (that is, Security Category I/II) quantities of SNM. In the associated 2008 ROD (73 FR 77644) for the programmatic alternatives, NNSA announced its decision to transform the plutonium and uranium manufacturing aspects of the complex into smaller and more-efficient operations while maintaining the capabilities NNSA needs to perform its national security missions. The ROD also stated that manufacturing and research and development involving plutonium would remain at LANL. To support these activities, the *Complex Transformation SPEIS* ROD stated that NNSA would construct and operate the CMRR-NF at LANL as a replacement for portions of the CMR Building, a structure that is nearly 60 years old and faces significant safety and seismic challenges to its long-term operation.

1.7 Public Participation

During the NEPA process, there are several opportunities for public involvement (see **Figure 1–4**). On October 1, 2010, NNSA published a Notice of Intent to prepare this *CMRR-NF SEIS* in the *Federal Register* (75 FR 60745) and on the DOE NEPA website. In this Notice of Intent, NNSA invited public comment on the *CMRR-NF SEIS* proposal. The Notice of Intent listed the issues initially identified by NNSA for evaluation in this *CMRR-NF SEIS*. Although scoping is optional for an SEIS under DOE's NEPA implementing procedures (10 CFR 1021.314(d)), public citizens, civic leaders, and other interested parties were invited to comment on these issues and to suggest additional issues that should be considered in this *CMRR-NF SEIS*. The Notice of Intent informed the public that comments on the proposed action could be submitted via U.S. mail, email, a toll-free phone line, a fax line, and in person at public meetings to be held in the vicinity of LANL. The public scoping period was originally scheduled to end on

November 1, 2010. In response to public comments, NNSA extended the public scoping period through November 16, 2010 (75 FR 67711).

Public scoping meetings were held on October 19, 2010, in White Rock, New Mexico, and on October 20, 2010, in Pojoaque, New Mexico. NNSA representatives were available to respond to questions and comments on the NEPA process and the proposed scope of this *CMRR-NF SEIS*. Members of the public were encouraged to submit written comments, enter comments into a computer database, or record oral comments during the meetings, in addition to submitting comments via letters, the DOE website, or the fax line until the end of the scoping period. All comments were considered by NNSA in preparing this *CMRR-NF SEIS*.

A comment is defined as a single statement concerning a specific issue for NEPA public scoping purposes. An individual commentor's statement may contain several such comments. Most of the oral and written public statements submitted during the *CMRR-NF SEIS* scoping period contained multiple comments on various specific issues. These issues are summarized in the following paragraphs.

Figure 1–4 National Environmental Policy Act Process for this *CMRR-NF SEIS*

Summary of Major Comments

Approximately 85 comment statements or documents were received from citizens, interested groups, local officials, and representatives of Native American pueblos in the vicinity of LANL during the scoping process. Where possible, comments on similar or related topics were grouped into common categories for the purpose of summarizing them. After the issues were identified, they were evaluated to determine whether they were relevant to this *CMRR-NF SEIS*. Issues found to be relevant to this SEIS are addressed in the appropriate chapters or appendices of this *CMRR-NF SEIS*. Public scoping meetings were held on October 19, 2010, in White Rock, New Mexico, and on October 20, 2010, in Pojoaque, New Mexico. NNSA representatives were available to respond to questions and comments on the NEPA process and the proposed scope of this *CMRR-NF SEIS*. Members of the public were encouraged to submit written comments, enter comments into a computer database, or record oral comments during the meetings, in addition to submitting comments via letters, the DOE website, or the fax line until the end of the scoping period. All comments were considered by NNSA in preparing this *CMRR-NF SEIS*.

Comments on the DOE/NNSA NEPA Process

- ***Comment Summary:*** There were comments on the scoping meeting format. Commentors requested that oral comments at the meeting be transcribed by a court reporter and entered into the comment record. Commentors also requested additional scoping meetings in other areas of New Mexico and at other NNSA sites, as well as an extension of the public scoping period. Commentors questioned how notice was provided to the public and to affected parties that an SEIS was to be prepared. In addition, there were suggestions on how the public participation for the draft SEIS should be addressed, including the format and locations of meetings, the length of the comment period, and the availability of SEIS references for public review.

NNSA's Response: As noted above, NNSA issued its Notice of Intent to prepare a supplement to the *CMRR EIS* in the *Federal Register* and placed notices of scoping meetings in local news media. In addition, NNSA's Los Alamos Site Office sent a notification letter to its list of interested parties and stakeholders on October 1, 2010, notifying the recipients of NNSA's determination to prepare a supplement to the *CMRR EIS* and inviting comments and participation in the NEPA process and public scoping meetings. The list of interested parties comprises organizations and individuals who have previously expressed interest in NEPA-related activities conducted at LANL. The scoping meetings were planned to enable NNSA to collect input on the scope of the planned SEIS. To the extent practicable, NNSA made changes to the meeting format for the second meeting. In response to requests, the public scoping comment statements and documents were posted on the NNSA website (http://nnsa.energy.gov/nepa/cmrrseis). With issuance of the Notice of Availability for this *Draft CMRR-NF SEIS,* NNSA is announcing the locations and times of public hearings on the draft document, and how interested parties can obtain copies of the draft SEIS and access to references.

- ***Comment Summary:*** Comments addressed the type of document NNSA should prepare, calling for development of a new EIS rather than an SEIS, based on changes in construction materials, project costs, and the schedule, as well as perceived scope changes in the years since the 2004 *CMRR EIS* ROD was issued. Commentors questioned the timing of the preparation of this SEIS while DOE is conducting an independent review of the CMRR-NF and another facility replacement project at the Y–12 National Security Complex in Tennessee. Others called for a programmatic EIS, reopening the question of whether the CMRR-NF should be constructed at all and whether it should be constructed at another NNSA site. Others stated that a new EIS should consider relocating all LANL plutonium operations to another site. Several commentors asked that funding of the CMRR-NF be halted while this SEIS is being prepared.

  NNSA's Response: NNSA has determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations (40 CFR 1502.9(c) and 10 CFR 1021.341(a) - (b), respectively), to address the changes in construction of the CMRR-NF based on additional seismic information. The *CMRR-NF SEIS* also includes information that was not available at the time the *CMRR SEIS* was prepared and addresses recent guidance such as including impacts of greenhouse gases. The accident analysis has been updated based on additional seismic and population data. In November 2010, the Secretary of Energy invited experts to provide him with their individual assessment of program requirements for the CMRR-NF and the Uranium Processing Facility at the Y-12 National Security Complex in Oak Ridge, Tennessee (DOE 2010). In addition, the U.S. Department of Defense is conducting a review, with support from an independent group of experts, to consider safety, security, and program requirements and to develop an independent assessment of estimated cost range data for the CMRR-NF and the Uranium Processing Facility. Analyses and recommendations from these independent assessments, information in this *CMRR-NF SEIS,* and other programmatic considerations will be weighed as NNSA moves toward a final decision on the construction and operation of a CMRR-NF. As discussed in Section 1.5, NNSA is not planning to revisit either the need for the CMRR-NF or locating the facility at another site. The *Complex Transformation SPEIS* (DOE 2008c) addressed the location for manufacturing and research and development involving plutonium. In the ROD for that document, NNSA announced its decision that that mission would remain at LANL and its decision to construct and operate the CMRR-NF at LANL. Based on these decisions and the authorization for the project and appropriation of funding, NNSA intends to proceed with the CMRR-NF planning process.

Comments on U.S. National Security Policy and DOE Priorities

- ***Comment Summary:*** There were several comments opposing nuclear weapons, pointing out apparent inconsistencies with U.S. policy on disarmament, and calling for an end to NNSA's weapons mission at LANL. Others suggested that NNSA should change its mission at LANL to research and development of clean and renewable energy or pursue solutions to climate change. Some comments stated that the project money would be better used on helping the people of New Mexico, cleaning up legacy waste, and ensuring that facilities like the Radioactive Liquid Waste Treatment Facility and the TRU Waste Facility are constructed. Some commentors also expressed concern that the use of funds for constructing the CMRR-NF would interfere with NNSA's carrying out the requirements of the Consent Order.

  NNSA's Response: NNSA acknowledges that there is substantial opposition to the nuclear weapons mission. However, decisions on nuclear weapons policy are made by the President and Congress and are outside the NEPA process. Section 1.5 of this *CMRR-NF SEIS* discusses the decisions that NNSA does not plan to reconsider in this SEIS, including changes in the Stockpile Stewardship Program mission at LANL. That same section also states that NNSA is not planning to revisit its decisions on projects located along the Pajarito Road corridor, including the TRU Waste Facility and the Radioactive Liquid Waste Treatment Facility, or its commitment to closure of various material disposal areas at the direction of the New Mexico Environmental Department and in compliance with the Consent Order.

Comments on the Scope of the CMRR-NF SEIS

- ***Comment Summary:*** There were suggestions for changes in the alternatives and for additional alternatives to be addressed in the SEIS. Some comments called for a change in the No Action Alternative that was proposed in the Notice of Intent, requesting that the No Action Alternative analyze not constructing the CMRR-NF, or constructing only a vault structure. Others suggested that continued use of the existing CMR Building for AC and MC operations should be the No Action Alternative. Addressing the proposed action, there were suggestions that NNSA consider locating the AC and MC operations in available space in other LANL facilities, such as the TA-55 Plutonium Facility or RLUOB so that the CMRR-NF would not be required. One commentor called for a review of available space throughout the DOE complex (nationwide) for alternative locations for CMR operations. A commentor questioned the need for deep excavation below the poorly welded tuff layer.

  NNSA's Response: The No Action Alternative considered in this *CMRR-NF SEIS* is the Preferred Alternative that was selected by NNSA for implementation in the 2004 ROD based on the 2003 *CMRR EIS*. This *CMRR-NF SEIS* also considers an alternative that would continue to rely upon the restricted use of the CMR Building without constructing the CMRR-NF even though, as discussed in Section 1.4, this would not meet NNSA's purpose and need for taking action. RLUOB has not been constructed as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate the building as anything other than a radiological facility, which would significantly limit the total quantity of SNM that could be handled in the building. As a result, AC and MC operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Likewise, constructing only the vault structure would not meet NNSA's purpose and need for action to provide sufficient space to safely conduct mission-required AC and MC operations at LANL. As stated above, while NNSA does not intend to revisit its decision regarding locating AC and MC operations at LANL, using other existing LANL nuclear facilities to accommodate all or some of the AC and MC operations would result in these operations being spread out over LANL, would likely require significant facility upgrades and would require the elimination of other current mission support work that is

now performed by these nuclear facilities to free up room for the AC and MC operations. This suggested action would not meet NNSA's stated purpose and need for action and is not evaluated further in this SEIS. With regard to deep excavation, since the issuance of the Notice of Intent in October 2010, NNSA has added an additional construction option to the Modified CMRR-NF Alternative. This *CMRR-NF SEIS* analyzes two construction options: Deep Excavation, which would involve excavation to a nominal depth of 130 feet (40 meters) below ground and removal of the poorly welded tuff layer beneath the Modified CMRR-NF construction site; and Shallow Excavation, which would involve less excavation (to a nominal depth of 58 feet [18 meters]) because the Modified CMRR-NF's base elevation would be located above the poorly welded tuff layer. See Chapter 2, Section 2.6.2.1 for further description of the construction options.

- ***Comment Summary:*** Commentors requested that a number of specific issues be analyzed in this *CMRR-NF SEIS*. Commentors requested that economic and ethnicity analyses be done on the impacts of shipping waste as part of an environmental justice analysis. Commentors also were concerned about the impacts on health and safety. Some stated that this *CMRR-NF SEIS* should evaluate health effects for particular portions of the general population and objected to health effects methodology based on a generic "reference man," rather than considering the potential impacts to the most vulnerable individuals. Others requested an analysis of climate change impacts, even if CEQ guidance on such analysis is not complete. Commentors also called for analysis of cumulative impacts on the public. Some mentioned the safety of land and water for food production and farming; one commentor was concerned about prime farmland. One commentor requested a compilation of every permit and any releases resulting from the proposal.

  NNSA's Response: The environmental justice discussion in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, of this *CMRR-NF SEIS* addresses low-income and minority populations. Sections 4.2.10, 4.3.10 and 4.4.10 also describe potential health and safety impacts on workers and the public during construction, normal operations, and in the case of accidents. As part of the analysis, estimates of potential releases are presented and these data are used to calculate doses to individuals from direct exposure and exposure through food consumption. CEQ guidance recommends that greenhouse gas emissions be considered in evaluating project impacts. The air quality sections in Chapter 4 (Sections 4.2.4.2, 4.3.4.2, and 4.4.4.2) of this *CMRR-NF SEIS* include data on the generation of greenhouse gases.

  NNSA's methodology for health effects analysis uses a risk factor that is consistent with risk factors in a population with equal numbers of males and females and with an age distribution similar to that of the entire U.S. population. Thus, this risk factor is based on a wider range of the population than adult males; however, NNSA does not analyze impacts on specific vulnerable individuals in its NEPA documents. The cumulative impacts discussion in the 2008 *LANL SWEIS* includes impacts of the No Action Alternative of this *CMRR-NF SEIS*, namely construction and operation of the 2004 CMRR-NF selected in the 2004 ROD for the 2003 *CMRR EIS*. The cumulative impacts discussion in Chapter 4, Section 4.6, of this *CMRR-NF SEIS* is based on the 2008 *LANL SWEIS* analysis and presents a cumulative impacts analysis of the Modified CMRR-NF Alternative. Chapter 5 describes the applicable laws, regulations, and permits for this proposal. NNSA routinely provides information on LANL releases and health effects in its annual site environmental reports, which are available at http://www.lanl.gov/environment/all/esr.shtml. The site environmental reports include the results of sampling air, water, fish, and produce to calculate potential doses to the public from LANL operations.

- ***Comment Summary:*** Commentors were concerned about the impacts of transporting waste generated by the proposed action and requested that this *CMRR-NF SEIS* detail where legacy and newly generated waste at LANL would be disposed of and how waste would be transported to offsite facilities, including proposed transportation modes and routes and the impacts on

communities. They also requested a description of emergency preparedness capabilities along the proposed routes.

NNSA's Response: Chapter 4 of this *CMRR-NF SEIS* provides data on the amount of waste generated under each of the alternatives (see Sections 4.2.12, 4.3.12, and 4.4.12) and analysis of the transportation impacts of shipping the waste for disposal (see Sections 4.2.13.1, 4.3.13.1, and 4.4.13.1). The relationship of these quantities of project-specific wastes to quantities of LANL legacy waste is described in Section 4.6, "Cumulative Impacts." More information about disposal of legacy waste can be found in descriptions of LANL environmental restoration wastes in Chapter 5, Section 5.9, and Appendix I of the 2008 *LANL SWEIS*.

- ***Comment Summary:*** Commentors were concerned about water usage in the face of stricter limits. The statement was made that DOE estimated in the 2003 *CMRR EIS* that waste generation could double and annual water consumption could increase by 10.4 million gallons. Other commentors expressed concern about water use during construction. One commentor called for use of clean, treated effluent as the water source for concrete production.

  NNSA's Response: Water usage during construction and operations is addressed in Chapter 4 of this *CMRR-NF SEIS* (see Sections 4.2.3, 4.3.3, and 4.4.3). Current requirements for water conservation and the use of clean, treated effluent as a water source are addressed in Section 4.7, "Mitigation Measures." Regarding the commentors' statements about waste generation and annual water consumption from the 2003 *CMRR EIS*, that EIS presents operations data for the CMRR Project, which includes both RLUOB and the CMRR-NF. Water usage for both buildings was estimated at that time to be about 5 percent of total LANL available capacity (see Table 4–8 of the 2003 *CMRR EIS*). Chapter 4 of this *CMRR SEIS* evaluates the potential impacts on water supply and waste management from construction and operations as described in the alternatives for the CMRR-NF.

- ***Comment Summary:*** Several commentors questioned how a nuclear facility like the CMRR-NF could be LEED-certified if it uses so many materials, generates waste, has the potential to emit contaminants or discharge contaminated water, and supports production of nuclear weapons.

  NNSA's Response: Appendix B, Section B.2.3, describes the LEED green building certification system and its rating criteria. LEED certification does not depend on a building's use, only its sustainable design proficiency.

- ***Comment Summary:*** Commentors were especially concerned about the traffic impact of trucking large amounts of construction material in White Rock and Los Alamos and the impact on LANL commuters. Others were concerned about the impacts of potential long-term Pajarito Road closures, especially in an emergency. There were suggestions on how to accommodate the increase in traffic due to construction workers.

  NNSA's Response: The transportation analysis in Chapter 4, Sections 4.2.13, 4.3.13 and 4.4.13, addresses the impacts on traffic along site and area highways. Long-term Pajarito Road closures are no longer being considered for implementing the CMRR-NF Project.

- ***Comment Summary:*** Issues were raised concerning impacts of aircraft accidents and possible terrorist acts. One commentor was concerned that the possibility of an aircraft accident was not taken seriously. Other commentors requested that the results of the terrorism analysis be partially declassified.

NNSA's Response: The accident analyses presented in Chapter 4, Sections 4.2.10.2, 4.3.10.2, and 4.4.10.2, present the impacts of a range of possible accidents. The range of accidents considered is consistent with those evaluated in safety analysis documents; these include the crash of a light airplane. The risks from the accidents evaluated in the SEIS would be as large as or larger than those of a light airplane crash. A classified appendix was prepared to address the impact of intentional destructive acts, which include terrorism. Substantive details are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks.

- ***Comment Summary:*** Commentors were concerned that jobs would not go to local workers in northern New Mexico communities, despite NNSA's statements to the contrary in local meetings. Some stated that this project would not produce new long-term jobs. Some commentors requested that this *CMRR-NF SEIS* address socioeconomic concerns, such as the number of workers involved in construction and the impacts on housing, schools, and traffic.

  NNSA's Response: Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9, of this *CMRR-NF SEIS* address the socioeconomic impacts of the alternatives.

- ***Comment Summary:*** Commentors requested that this *CMRR-NF SEIS* address DD&D of the existing CMR Building and the proposed CMRR-NF; several called for including a DD&D work plan in this *CMRR-NF SEIS* to ensure that it becomes a part of the complete NEPA analyses.

  NNSA's Response: Chapter 4, Section 4.5, of this *CMRR-NF SEIS* addresses DD&D of both the existing CMR Building and the CMRR-NF. A work plan for DD&D is not required for NEPA analysis and is not a part of this document. Detailed planning and analysis is not practical at this point because for the CMR Building, this work is potentially at least 10 to 15 years in the future and for the CMRR-NF, it is approximately 60 years in the future.

1.8 Organization of this *CMRR-NF SEIS*

This *CMRR-NF SEIS* consists of Chapters 1 through 10 and Appendices A through D. The CMRR-NF alternatives are described in Chapter 2, which also includes a comparison of potential impacts under each of the alternatives. In Chapter 3, the LANL environment is described in terms of resource areas to establish the baseline for the impact analysis. Chapter 4 provides descriptions of the potential impacts of the alternatives on the resource areas. Chapter 4 also includes discussions of DD&D, cumulative impacts, irreversible and irretrievable commitments of resources, the relationship between short-term uses of the environment and long-term productivity, and mitigation. Chapter 5 provides a description of the environmental, health, and safety compliance requirements governing implementation of the alternatives, including permits and consultations. Chapters 6, 7, 8, 9, and 10 are the glossary of terms, the list of references, the list of preparers, the *CMRR-NF SEIS* distribution list, and the index, respectively. Appendices A, B, C, and D are the list of applicable *Federal Register* notices, the methodologies to assess impacts on environmental resource areas, evaluation of human health impacts from facility accidents, and the contractor disclosure statement, respectively.